



# Environmental Audit Committee

## Oral evidence: Mapping the path to net zero, HC 497

Wednesday 21 July 2021

Ordered by the House of Commons to be published on 21 July 2021.

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Members present: Philip Dunne (Chair); Duncan Baker; Dan Carden; Barry Gardiner; Mr Robert Goodwill; Helen Hayes; Ian Levy; Caroline Lucas; Cherilyn Mackrory; Jerome Mayhew; John McNally; Dr Matthew Offord; and Claudia Webbe.

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### Witnesses

**I:** Chris Stark, Chief Executive, Climate Change Committee; and Tom Sasse, Associate Director, Institute for Government.

**II:** Rachel Maclean MP, Parliamentary Under-Secretary of State, Department for Transport; Dr Bob Moran, Deputy Director, Environmental Strategy, Department for Transport; Eddie Hughes MP, Parliamentary Under-Secretary of State, Ministry of Housing, Communities and Local Government; and Charlotte Baker, Director of Net Zero and Greener Buildings, Ministry of Housing, Communities and Local Government.

## Examination of witnesses

Witnesses: Chris Stark and Tom Sasse.

Q1 **Chair:** Good afternoon and welcome to the Environmental Audit Committee. We have a one-off oral evidence session today looking at net zero and climate adaptation and how the UK is doing in achieving its ambitious targets.

We have two panels today. We are joined first by Chris Stark from the Climate Change Committee and Tom Sasse from the Institute for Government. I will ask them to briefly introduce themselves for the camera. Then we have a second session with Ministers from the Department for Transport and HCLG Department.

Chris, you have just published your latest update. Perhaps you could just tell us in a couple of words what you would like to headline from that report.

**Chris Stark:** Thank you for the invitation to join you today. We have just published our annual progress report. Every two years it is a bumper edition. We look at the challenge of adapting to climate change every two years and that accompanies the review we do every year of how well we are doing on emissions reduction.

The headline is that if we look across those two issues, we see a little progress. We certainly see an increase in the ambition of the Government to reduce emissions as you are seeing with the targets that they have been setting recently and rhetoric for COP26, but little by way of progress against delivering on those targets. The general message here is that it is great to have ambition but we need to start upping the delivery.

Q2 **Chair:** One lesson that we have been able to take from the pandemic, which has affected all of our lives for the last 16 months, is that Government can mobilise to extraordinary effect at a great pace if it sees the scale of the problem it is facing. Do you think there is anything that we can learn in approaching the climate change adaptation from the Government's approach to the pandemic?

**Chris Stark:** I definitely think there is something to learn from the pandemic. We have seen some catastrophic events in Germany in the last few days and, of course, North America recently as well, which are a pretty frightening example of the changes that are now with us on climate change. They are going to worsen. We have this situation where we have a known risk and we also have a known set of strategies that would allow us to manage that risk, albeit it not manage it away entirely.

We have always had extreme weather but what we are seeing is weather events with much greater intensity, much greater frequency, heatwaves, wildfires, flooding. This is the kind of thing that scientists have been warning about for some time. This is the change we see when temperatures have risen by just over 1 degree centigrade for pre industry



levels. We know we are on course for something warmer than that so surely the lesson from the pandemic is that we have to get prepared, have to get ready for those risks that we know we face.

Here in the UK we are better prepared in the sense of the analysis that has been done than almost any other country in the world. It is of great concern to me that we are not as prepared as we should for the climate changes ahead and of course we have to try to mitigate those changes as much as possible with all the global efforts to cut emissions. It feels very much like the pandemic is a new context for that concern and I very much hope that the Government does take some of lessons from the pandemic planning, such as it is, and applies them to climate change.

**Q3 Chair:** We had John Kerry in London this week and he acknowledged that temperatures were at 1.2 degrees increase and was warning about the risks of getting a 2.4 degree increase globally. Do you think that we are clear about what the vulnerabilities would be in this country if we were to see a temperature increase at the upper end of that range?

**Chris Stark:** No, I don't think we are clear but we do have the basis to get clear. It is worth saying that John Kerry is right: the global average temperature has risen by 1.2 degrees centigrade. Here in the UK it is about the same. The annual average temperature has been warming at about 0.3 degrees centigrade per decade in recent decades so what we are seeing is heatwaves that are now more common in the UK, they are more intense across the country, the cold extremes are much less likely. We are also starting to see a signal of climate change in some of the extreme heavy rainfall events that we have seen.

We have modelled a 2-degree scenario, so a scenario where the world warms by 2 degrees centigrade; and a 4-degree scenario. It is fair to say that neither of them is particularly appealing but there is a marked difference between them and in the outcomes that we will see for the UK. The key vulnerabilities that we have in the UK are probably the risks from extreme heat—we are all aware of that, particularly today. I am sweltering and I am up in Scotland. It is incredibly warm today.

Changes in rainfall can of course lead to droughts or—potentially even worse—destructive heavy rainfall events the likes of which we have just seen in Germany. Flooding goes with that and, of course, sea level rise. If I have a quick look at the 4-degree scenario by the end of the century, so 4 degrees centigrade of warming by 2100, we would be talking about the likelihood of a 2018 style summer heatwave most years. Imagine that every year: summer rainfall falling by about a third from where it stood in 1981 to 2000; winter rainfall up by one fifth; a 50% increase in extreme heavy rainfall events and sea level rises of between 55 and 80 centimetres.

I could go on but we cannot adapt that away. I would say that we would be very, very vulnerable to those kinds of impacts and changes. There were fundamental indications across the country and, of course, these



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are changes that are now within the lifetime of people living in the UK today, people like my kids. It is much better, I think, that we aim for that 2-degree outcome that Paris talks about, well below 2 degrees centigrade is the objective in the Paris Agreement. That rests ultimately of course on the progress that we will make on global emission reductions.

Even in that scenario we are still going to need to adapt. It is much more likely that we can do so and maintain the kind of economy and society that we want to maintain if we plan for those two things together, for that net-zero economy and for a society and economy that better-adapted to the temperature changes and climate changes that are coming.

**Q4 Chair:** Focusing down on one area where the Government can do something, this Committee has been very interested in the issue of energy efficiency, which is absolutely essential if we are going to achieve net zero. We have a housing Minister in front of us in the next panel.

We have been building homes that do not meet the Future Homes Standard, when that is eventually published, which we know are going to require retrofitting for energy efficiency during times of cold, but we have also not done much to ensure that they can sustain comfortable living when we are going through these heatwaves that you have been talking about. What do you think of the Government's proposed planning reforms and the Future Homes Standard in terms of being able to ensure that we can adapt to live in our homes comfortably?

**Chris Stark:** We have looked at the planning reforms, we have also looked at the Future Homes Standard and there is a mixture of reaction to the question you have asked.

In total, when we look across those things we do not see a set of reforms and plans that are adequately taking adaptation into account, so it is worth saying that is the kind of blunt news here. The good news is that one of the key vulnerabilities that the UK faces is flooding and we have seen an improvement in the country's preparation for flooding, especially through last year's national policy statement on flood and coastal erosion risk management. The Environment Agency also has a plan and a strategy that supports that now.

In terms of new developments and planning, the Government have said that they have plans to review their policy for buildings in areas of flood risk. It would be good if we could have a look at that. That review will, we think, improve things. Flooding looks like it is moving in the right direction, in particular through the national planning policy framework but there is bad news here as well. I don't think that 2020 White Paper proposals for planning have really thought through the need for our resilience to floods properly.

When we look at the White Paper, it set out three categories for land—three designated categories with areas at risk of flooding excluded from



what they call the growth area category, unless there are measures in place to mitigate that flooding risk. It is not clear from those proposals what level of flooding risk would trigger those protections or what is included in the definition of what they call mitigated flood risk.

That is a challenge for MHCLG. They have also proposed legally binding housing targets for each local authority. That is an important part of the proposals but we don't have the detail on how those targets would take account of land constraints in every area and especially if that land is at risk of flooding. I know MHCLG did an internal review of planning policy for building and areas of flood risk. They should publish that as soon as possible and I very much hope they will consider that framing I mentioned earlier of the 2-degree scenario and the 4-degree scenario.

The other area that we worry about is extreme heat. You mentioned that in your question. Overheating in buildings is already a fatal issue—a silent one as well, not one we talk about often but it is something that will worsen in future. The future building standards consultation did have proposals in it for an overheating standard and to enshrine that in building regs. That, I am afraid, does not propose to extend to retrofits or to existing buildings or crucially the conversions that I know are planned extensively from non-domestic building to residential. That is a significant gap, we think.

We have urged MHCLG to consider a stronger set of standards in this area with proper enforcement obviously as well so that we can have new and existing buildings that are designed for the kind of changing climate I talked about earlier as well as this enormously important topic of having more energy-efficient buildings. I also think there is potentially a role for the new building safety regulator to cover off some of those climate change risks. That would be an interesting question for Ministers in MHCLG.

**Q5 Chair:** Tom, I would like to come to you for a moment, if I may. You have compared the challenge of delivering the climate change targets for Government as similar to the task of delivering Brexit. We have concerns about where responsibility sits for the environment. From your position at the Institute for Government, could you give us your sense of how well-prepared Government are to be able to cope with something that reaches so widely across so many Departments and cannot be siloed in the way Government normally works?

**Tom Sasse:** Absolutely. Thanks for the invitation. We wanted to look at this area in addition to or complementing the excellent work done by the Climate Change Committee and other organisations, because we felt there was something of a governance gap in how we think about this net-zero challenge. We made comparisons to think about what are the really big crosscutting Government challenges of a similar scale and it is almost difficult to look at them. If you think of a 30-year economy-wide transformation, every single sector, every person's home, every person's lifestyle, it is absolutely enormous.



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What we argued in our report was that the current set up in Government is not commensurate with the scale of that challenge. BEIS is the lead Department on net zero, taken over from DECC, and has the responsibility for co-ordinating government action. What we found—and this is not just a BEIS problem; it was the same with DECC—is that consistently the Department responsible for climate change has struggled to have the clout over other Departments to get them to act as quickly as we might hope. We can see that if you look at the emissions charts and where the UK has made progress. We made very good progress in the energy sector, arguably some of the lowest hanging fruit there but where we have struggled is in places like housing, transport and so on, where the climate Department has not been able to have purchase.

We argued that one solution—and there are other models available—would be to move responsibility for climate change to the Cabinet Office, have a powerful net-zero unit—I notice that we are seeing a new levelling up unit because that is another cross-government priority—and have that unit report to a senior Minister. That unit would need to be supported by significant analytical capacity; it would need to be developing a shared vision across government. It would also need to draw in expertise from Departments.

One model we looked at, for those with long memories, was the Office for Climate Change, which was set up by DEFRA in the mid-2000s, and that brought in expertise from different Departments. It was seen as a shared endeavour across government and not as a top-down thing being imposed. That is very important. That is what we argued for. It is not the sort of route that the Government have gone down.

Where have we got to since we published that recommendation? You are right to notice that the current machinery, the Climate Action Strategy Committee and the Implementation Committee, is probably not strong enough for the level of co-ordination that is required. I noticed in a previous inquiry that you ran you had an answer from Alok Sharma that suggested the Strategy Committee had only met a couple of times; I think the Implementation Committee are meeting a bit more often but certainly it is not getting the sense that it is a very strongly co-ordinated thing within Government.

We see that in some of the policy outputs. If you take as an example the Green Homes Grant, that was a stimulus measure that fell apart because it was designed as an uneasy compromise between BEIS and the Treasury. You have looked at that a great deal in your Committee. What we need is a stronger sense of co-ordination to bring the different things together.

The final point I would just make on that is on local government and local authorities. Chris was absolutely right to point in his previous answer to some of the issues with planning policy at the central level. One of the issues I would point to is that a lot of local authorities do not feel that



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they have the capability to do much of this, whether that is on adaptation through the planning system and getting climate in there or on broader net-zero policies. We need much stronger co-ordination, both central but also working at the local government level. The National Audit Office report last week highlighted that.

**Q6 Chair:** I am pleased you raised that because that was done at our request and it is something that we are going to pick up with them and with local authorities when we come back after the summer recess.

You mentioned that net zero is the responsibility of BEIS. Of course climate adaptation is the responsibility of DEFRA. There you have two very distinct Departments addressing pretty different audiences, dealing with two parts of the same problem. I look to DEFRA for their responsibilities for rural proofing, being a rural MP, and they have had this responsibility for rural affairs. The name is in the title. Yet it is quite hard to point to anything they have achieved from a rural proofing perspective. It worries me that they do not have the clout across Government to encourage other Departments to adapt in the way they need to. I think from what you say, you share that—

**Tom Sasse:** I agree with that. DEFRA on adaptation has suffered from some of the same problems as BEIS and DECC before it on mitigation in that it struggles to get a sense of priority across Whitehall. DEFRA is not traditionally one of the biggest hitters.

DEFRA has an additional challenge in that net zero is a very clear, easily communicable target. It has a galvanising effect. I think we have seen that in the last couple of years since the target was adopted. The conversation has changed massively. On adaptation, we don't have that. It is very disparate; it covers a huge multitude of different things and I think that is one of the reasons DEFRA has struggled to get purchase on it. The proposal that we had was that both adaptation and mitigation could be brought together in one place in the Cabinet Office but there are various ways you could cut it. The important thing is to give both of these areas more clout in terms of co-ordinating the different Departments, local authorities, agencies and so on that need to be acting on them.

**Chair:** Thank you, Tom. I am now going to hand over to Barry Gardiner who will pursue a similar line of questioning.

**Q7 Barry Gardiner:** Chris, if we have plucked most of the low-hanging fruit, are there any easy decarbonisation gains still left to us? If not, what tools do we need to reach up the tree and pluck the fruit from the top of it?

**Chris Stark:** Are there any easy gains? I suppose it depends how you define "easy". There is a very reductionist outlook in all of this, which says very simply that this is all very simple, the challenge of net zero is essentially quite a simple one of transitioning as quickly as possible away from fossil fuels in every area, growing our natural carbon stores alongside that and cutting our methane emissions from farming. It is





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quite appealing to think of it in that way. I sometimes crave a bit of that simplicity but I know in reality it is much harder than that.

I do genuinely respect the fact that Ministers face a wide range of difficult trade-offs in some of the questions that we have before us on how to reach net zero. Everything is tricky to some degree. When I think about your question I might step back and just say that so far Government's focus have very much been on clean technologies and not just this Government but Governments before it. That is good.

We will need those clean technologies but they take time to develop, they take time to deploy, they need new infrastructure, they are often quite expensive, especially at the outset. We largely ignore the potential for changes in consumer choices or in demand, which have very big opportunities to cut emissions quickly. They tend to be cheaper; they tend to be quicker and they are also very important, certainly in our analysis, on reaching the pathway to net zero, especially in the next decade. They are almost the basis for a successful strategy.

We see, in our work, at least, a very wide range of levers available to promote those low-carbon choices. We are not talking about banning things here; I am talking about information provision, better labelling, enabling measures, nudges, that sort of thing. We have good evidence that consumers are quite ready to make that change but they need the supporting infrastructure to do that. They need standards to be in place. It is helped along with tax incentives and regulations. There is very little from the Government on these demand side measures, with an honourable mention for the new transport strategy that does consider them and it is great that it does.

They are not politically easy things to do but they certainly get results quickly because they do not need to wait for infrastructure. They make the problem of decarbonisation a small one in the round as well and they also tend to have a wider range of benefits to things like health and diets. That should be something that Ministers are pondering while they go full tilt for these clean technology choices. That is the "easy" bit of it that I would suggest.

**Q8** **Barry Gardiner:** That prompts me, Tom, to challenge you then because Chris has highlighted, if I can put it this way, the extension to the apple picker being the wins that we could gain from engagement with the public and transformational behaviour. Out of the six Cs that the IFG has identified—certainty, consistency, co-ordination, costs, capability—only one is talking about public consent. Given what Chris has said, do you feel that the balance there may be wrong?

**Tom Sasse:** Public consent is a huge part of the next stage of net zero. Clearly progress has been made by putting a little bit of the costs on people's electricity bills, arguably a lot of the people have not noticed the action that we have been taking on climate change. Chris is absolutely right to point out that there are huge opportunities in changing public





behaviour quite quickly. I would just add to that as well that I think this is another area where the pandemic has opened up opportunities.

It is perhaps frustrating to see not quite enough of a focus on where a green recovery approach can maximise some of those opportunities. The obvious example is around an increase in home working, increase in local journeys, but if you look at some of the detail of the Transport Decarbonisation Plan, we are still going to be waiting some time for the active travel watchdog to come into force. There is perhaps not enough long-term certainty there on investment in cycling and things like that.

I would say that these things are going to come together. The public behaviour change only really happens if you balance it with the other things that you need to support that, giving businesses the long-term certainty to make those investments and so on.

We have a report coming out in September to time it with the anniversary of the Climate Assembly, looking at how you move on with public engagement on net zero, beyond the big broad Climate Assembly that looked at everything to how do we build public engagement much more routinely into all of the policy making that we do.

One of the arguments we are going to make in that piece is when it comes to any of these sectoral strategies, they need to be thinking about how they are going to test those with local communities, give local communities the opportunity to shake what transport systems look like in a local area and so on. We would like to see public engagement being seen as a much more routine part of policymaking in Whitehall.

**Q9 Barry Gardiner:** That prompts me just to push you a little. Do you think that the recommendations from the first Climate Assembly are being implemented swiftly enough? Do you think they are being taken seriously enough by Government because in some respects what it showed was the public were ahead of where Government are on this and logically that should have meant that the Government felt more confident to move into that space but they have not seemed to take advantage of that?

**Tom Sasse:** I think you are right: we have not seen a big shift towards some of those areas where the Climate Assembly indicated more willingness towards action. I refer back to Chris' earlier comment that we have some high-level targets and some good ambitions but in some areas we do not even have that and in the areas where we do have that we often do not have some of the detail underneath it.

The Climate Assembly and these public engagement exercises conserve multiple purposes in informing and helping our path towards net zero and it is not only in those recommendations being directly adopted by Government. One of the interesting processes that I have observed is that Climate Assembly document being used by parliamentarians, by Committee members. We had Darren Jones speak at one of our events and he called the report his Committee's bible. It gives parliamentarians



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a good sense of where the public is, to be able to scrutinise Government and say, "No, hold on, actually you are wrong about whether the public is on this".

I come back to what I said before. I think we need to go further because the Climate Assembly provides some pretty headline statements, some important principles around things like fairness; it does not necessarily give you a very detailed sense of how to make choices between different options.

**Q10 Barry Gardiner:** Chris, coming to you again. The CCC has made it clear that while we are on track to deliver on the third, we are not on track to deliver on the fourth, the fifth and now the sixth carbon budgets. In an attempt to be as fair as possible to Government, can you tell us whether the policy announcements that Government have made over the last 12 months look in any way able to close that gap?

**Chris Stark:** I will do my best, but we are hampered slightly by not having a plan from Government so assessing progress is difficult when we do not have that quantified plan. I know the Government are planning a strategy for net zero and that we should see it before the COP. We are keeping our powder dry, as it were, on the assessment of that until we can see the numbers but maybe just to give you a sense of where we are, we have just set the new Sixth Carbon Budget and I am very pleased that the Government have set that in line with the recommendations that we gave to them in November.

To meet the Sixth Carbon Budget we have to have a path all the way to net zero. So we need to look beyond the very positive story the Ministers regularly talk about of decarbonising the power sector. If you look at UK emissions outside of the power sector, they would need to fall by an average of around 17 megatonnes for each of the next 15 years. It doesn't matter if that means nothing to you because if I tell you the average is five outside of the power sector, that gives you a sense of how much we need to scale up outside of the one area where we have been progressing. We are just not seeing that yet.

If emissions in those other sectors remain on the same trajectory they were on pre-pandemic then we are going to miss the Sixth Carbon Budget, we are going to miss the fourth and the fifth as well by some margin. That quantified strategy I was talking about is really important. This year without it we thought we would have a go at appraising progress and wrapping in the progress that we have seen in the last year in the form of quite a few policy and strategy announcements. We decided to appraise progress in two ways, first to look at the ambition that the Government have set, so have the Government named an ambition reduction goal, for example, in a particular area. How far off is that from the CCCs own pathway?

Secondly, is there policy in place, fully funded policy, to deliver that emissions reduction? It is worth dividing those two things up, ambition



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and policy. When you look at ambition, there has indeed been a lot of movement in the Government's ambition to cut emissions, notably in the Prime Minister's 10-point plan before Christmas. Just under half of the ambitions that the Government have outlined we rated as on track or potentially on track. You could say those are the ones that we regard as the on-track ones. So half for the Sixth Carbon Budget.

It is on policy that the report card is much worse, I am afraid. Credible policies for delivering currently only cover about a fifth of the required reduction in emissions over that pathway to the Sixth Carbon Budget in about the mid-2030s.

Just to restate the premise of your question, we are off track for the Fourth Carbon Budget, we are off track for the Fifth Carbon Budget and, indeed, we are off track for the 2030 emissions target submitted to the UN in December. There is a lot now resting on the Government's net-zero strategy in the autumn. The transport strategy we have seen recently—and I am afraid we have not had a chance to do the numbers on that yet—will make a difference. We are edging our way towards something that is better, but the broad message I gave at the top of this discussion is still the case. We do not have those detailed, fully-funded policies that we would need to be confident we are on track for those legal targets.

**Q11 Barry Gardiner:** Does it surprise you that we will not have a chance for Parliament to scrutinise that net-zero strategy until perhaps a month or a month and a half before COP26?

**Chris Stark:** You are optimistic in that view if you think we will see it at that point. The Government have not said exactly what date we will see the strategy but my betting would be it will be in the weeks before COP26 and there are all sorts of reasons for that, just the time to prepare the strategy, especially as we have not seen some of the promised strategies that would have helped fill in the blanks in the months prior.

We are still missing a hydrogen strategy. We still have not had our heat in building strategy. There are various things missing from the plan that was promised by the Government. It means that everything is now resting on that single moment. A crucial one is that we have not seen the Treasury's funding review of this either, so there is another big event coming in the autumn and these two things are wedded together, the strategy and the Treasury's plan for funding it.

It does trouble me that you will not have had the time to scrutinise it. It troubles me that we will not have had the time to scrutinise it either, but ever the optimist; let's hope the run-in to COP26 means it will be a really powerful and ambitious strategy when we see it. If it is, I will be the first in line to give it praise.

**Barry Gardiner:** So will I, and let us hope it is the fulsome, comprehensive, effective strategy that we all want. Thanks very much for your responses.



Q12 **Caroline Lucas:** Chris, you have already started talking about the Transport Decarbonisation Plan, but before we get into the detail of the plan, my first question is: given that transport is currently the highest emitting sector, why do you think so little progress has been made in decarbonising surface transport?

**Chris Stark:** You are entirely right to say that; if you look at the emissions profile historically from transport emissions, there is not much to feel good about. It looks very much like a flat line, but beneath that there are some interesting things happening so it is worth saying that.

Transport comes in many forms. Perhaps if we start with surface transport, that line on surface transport may look like a flat one but there have been very significant improvements, particularly in technology, over the time of that emissions line, improvements in the efficiency of vehicles, improvements in the emissions from those vehicles at the tailpipe. It is a kind of puzzle and the answer is that while technology has been delivering steady improvements in emissions, road transport demand itself has been rising quite markedly and especially over the last decade.

The underlying issue is that the real cost of driving has plummeted so it has really fallen. With that we have seen a large increase in van use and van travel that is probably traceable back to the growth in online shopping. There is a frustrating picture of progress coupled with that demand increase.

On that the idea of optimism, we expect we will start to see a change in that line eventually and see it bending downwards thanks to electric vehicles. I also hope we will see something from the nation's newfound love of cycling and walking. I think that is an important part of this and together that means that surface transport I hope will change markedly in the future. It would be great if it had happened before now but it is important that it does because it is a quarter of UK emissions right now, as you say.

That is the story in surface transport. The other transport story is on aviation and shipping—especially on aviation, which is definitely the bigger story. Emissions from aviation have doubled since 1990 or thereabouts, but there is a similar story of technological progress and efficiency offset by higher consumer demand. It is interesting to look at that.

Looking at the last decade in UK aviation emissions, in 2018 they flatlined. They were the same as they were in 2008. We have seen an increase in emissions that is much more modest than the huge growth in passengers. That is because we are flying planes that are more full of passengers. There have been some decreases in the average flight distance but we have also seen efficiency improvements in the planes themselves. Together, that points to this idea that demand is really important here. It is not just that we need technology.



Q13 **Caroline Lucas:** Can I pick you up on that? That is exactly the point I wanted to come to. When it comes to demand management, it feels as if that is the area the Government does not have the courage to get into. I was going to invite you to make a reflection on the fact that fuel duty has been frozen for 11 or 12 years now in a row.

Also, coming to the decarbonisation plan, it was extraordinary that the press release that went alongside it basically said Government is today launching Jet Zero, committing the sector to a net-zero emissions target by 2050. It sets out an action plan ensuring everyone can continue to fly for holidays, visits to family, businesses and so on. Basically, we are holding out this fantasy that we will somehow have a technological fix, some time in the future, 2040, that allows us to continue with business as usual right now. How dangerous do you think that is, given that we know we need to get emissions down now rather than carrying on with business as usual in the hope that some technological fix will sort it out in decades to come?

**Chris Stark:** I agree very much with much of the premise of your question. We have not had the chance to look at the numbers yet to check how they match with our own recommendations but if you look across the plan itself, it is good. I am very pleased to say that. It is pretty comprehensive. As ever, it looks like it will deliver the emissions reductions on a longer timescale than I would like but it is good to have something like this and it does feel like progress.

As you say, when you look across the entirety of the plan, it is very notable the extent, whether it is aviation or surface transport, to which things are very technology-focussed. It is definitely a plan that leans on those technological improvements and those efficiency gains that come with it. If you think of aviation, there is a clear view that we will see continued efficiency gains in the short to medium term, that we will see sustainable fuels that can act as a drop-in replacement for fossil fuels in the future and even that we will have zero-emissions aircraft in the medium term.

That is definitely going to please the industry; I am absolutely sure of that. But there is obviously a big risk here that technology does not deliver. It is notable particularly in aviation that demand management does not get a look-in. There is, though, an interesting part of the consultation, the proposal that they would review the strategy in five years and continue to do so to make sure that it is on track, and if necessary, it would start to introduce those policies.

I take that as a cue that if the technology will not be there, they will have to look at demand management. That is another positive, but it would be better in my view if they had opened up the question of how demand could be managed, difficult as I am sure that would be.

A broader reflection, because you mentioned fuel duty: my other worry with the transport plan is that it is not linked up with the Treasury so we



do not see the fiscal instruments lined up with very useful and logical policies on technology improvement. There is nothing in fuel duty or the need for a replacement for fuel duty and that is a real fiscal risk. It is not just us pointing that out; it is the OBR and it is the impact on the product of the Prime Minister's plan to stop the sale of petrol and diesel vehicles by 2030.

It feels very much like that fuel duty issue is a glaring omission now and it is odd to have the transport plan that does not address it. We have to hope, as ever, that when we see something from the Treasury in the autumn that that will be the final piece in the jigsaw. It would be great to understand more about how the subsidies and the incentives will work through the fiscal regime for transport.

**Q14 Caroline Lucas:** It is interesting that you have just been talking about the Citizens Assembly and the Citizens Assembly did come up with some demand-side management proposals around a frequent fly levy or something similar so it is a shame not to see that.

What headroom are we likely to have in other sectors to offset remaining emissions from international aviation and shipping in 2050 and how worried are you about how much of the emission is meant to be reduced through offsets? One of the real concerns around offsetting is not only is it passing the buck to someone else to sort out but also, as you know, when it comes to aviation, if you are considering an emissions trading scheme or something, a tonne of CO<sub>2</sub> from aviation is not the same as land-based. The CO<sub>2</sub> is the same but aviation is responsible for methane and the contrails and nitrous oxide and so forth that are not necessarily captured currently in those offsetting schemes.

**Chris Stark:** This question of headroom is a really interesting one. For surface transport we have to get to zero carbon and there are viable strategies to do that. That is probably true for shipping as well, although there is still a bit of work to do to understand how shipping fuels can be zero carbon and we would manage that or what the technology routes are to that.

For aviation, our view and it appears to be the view of the Department, is it would be difficult for aviation itself to get to zero carbon in the timeframe targets Parliament has set for it to be achieved. You have this interesting question of what you do about that. We are expecting ongoing emissions from aviation and ongoing use of fossil fuels.

You mentioned the Climate Assembly. We used some of the Climate Assembly work in the question of how much demand management we would need. We used the recommendations of the Climate Assembly in understanding what should happen to aviation demand. The Climate Assembly said we should cap the growth in demand but they were not keen on a real-terms cut in aviation itself.





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There is a bit of that running through our modelling and it looks like that is the case with the DfT as well. They are still projecting growth in aviation and it is difficult to get into but it looks like they are projecting more growth than we are. That idea of capping the growth is something we want to look at a bit more. In whatever circumstance, whether it is the CCC's assessment or DfT's, we will have ongoing emissions from aviation even by mid-century so we will need something on the other side of the ledger. We have looked at that extensively and we regard the greenhouse gas removals as a viable way of mopping that up but they are not a free pass. They need to be viewed as a last resort for aviation or for any other sector that finds it difficult to fully decarbonise.

Aviation is different, as you say, because it has these non-CO<sub>2</sub> effects, so aviation emissions need to be minimised as much as possible. But for those things that cannot be minimised, we need what we call scalable offsets. That is code for not just planting trees. We should plant trees anyway. I would prefer to see engineered removals matched with those residual aviation emissions. That means probably growing biomass, growing energy crops and using them in an energy process. It could mean direct air capture, capturing the carbon and storing it. That is a very expensive process. It is a genuine negative emission if you have the facility and infrastructure to do it but it is something that ultimately the aviation sector itself should pay for and therefore it will increase the cost of aviation if those offsets have to be managed and paid for.

I would like to understand a bit more what the Government's view is of that but I will make my point again, that these are not free passes at all for getting to net zero and we have applied a different standard to aviation because it cannot get to zero carbon itself. We think for aviation and possibly for some of the other sectors too, they should incur these costs directly and their commercial interest in those negative emissions will grow if there is a way to bring down the costs of those key technologies overall.

**Q15 Caroline Lucas:** The policies introduced to support low carbon electricity generation over the last decade have been pretty successful in driving down emissions. I wondered what lessons you thought we might be able to learn, to apply to decarbonising transport from what has happened in other areas, and decarbonising buildings and industry.

**Tom Sasse:** The big lesson is you have had stable, long-term policies in place for over a decade, which have encouraged the market to move. If you take the offshore wind success story, for example, you had a pricing mechanism through the Contracts for Difference, you had industrial policies investing in producing some of the clusters we see on the east coast, you had policies to unlock planning, you had efforts to understand where people wanted these to be located.

All those things came together over a long time and that is the lesson. We are talking about a very long-term systemic changes and they do not happen when you have policy flip-flopping back and forth. If you look at



heating, we have seen the zero carbon homes policy cut, green homes grant, Green Deal introduced, withdrawn. If you look at EVs, you have seen subsidies brought in and then brought back. I think there is something in that lesson about just stable, long-term policy frameworks being part of the key to success here.

**Q16 Jerome Mayhew:** Tom, if I can carry on the questioning with you, in the discussion we have had today there has been a lot of talk about the comprehensive plan the Government need to put forward covering all sectors—we have had transport, heat and homes, all sectors to achieve net zero. But is not the lesson of the last 100 years that Governments are really bad at planning economies and by far the better mechanism for achieving change is by unlocking the strengths of the free market? In this context does that mean we need to have simply a strong and rising carbon price and then we can get the free market to solve these problems for us? What is your view on that?

**Tom Sasse:** It is an interesting point. There are different routes to net zero and it is perfectly legitimate. Some countries might choose to take a more state planning approach to net zero and some countries might prefer to take a more market-based approach. I think there are strengths and weaknesses to both and ultimately you will need a blend.

These are areas where probably the market cannot deliver all the change you would need to see or it would not be the most efficient way but a lot of the innovation and change will require the market and that is probably the approach we would more tend towards in the UK. I do not think being more market-based—and that is certainly the direction of this Government—precludes you from needing to set out a clear net-zero strategy because that net-zero strategy might set out how you want to utilise the market to drive progress in each area you want to do that.

If I could add to what I said earlier about the different sectoral plans, there is a risk we see a string of perfectly reasonable sectoral plans—Chris was talking about the Transport Decarbonisation Plan and it has very good things in it—but if those are all just made in unison, a set of perfectly good sectoral plans will not add up to a very good net-zero strategy necessarily.

The whole point about net zero is that it is a systems challenge where progress in different areas is interrelated and doing one sector alone is not going to work. The Council on Science and Technology wrote a very good letter to the Prime Minister on this. Even if you are taking a very market-based approach, you need someone at the centre to have a clear view on how you will deliver it sector by sector and how those things interrelate.

**Q17 Jerome Mayhew:** I quite agree that sometimes having a clear market signal—for example, the announcement that we will phase out the sale of internal combustion engine vehicles—is great for setting a clear direction for a market and then the market can move in to start solving those



problems. But is not the biggest market signal of all a price for carbon?

**Tom Sasse:** You are right to mention that. Certainly, most economists, most experts, would look at carbon pricing and say it is the most efficient way to drive carbon out of your economy. In the UK we have not used particularly aggressive carbon pricing and we have a range of different carbon prices across different sectors.

It has been quite interesting for me to see a bit more of a coalition building around the need for strengthening carbon prices. Some of that comes from what is happening abroad. We see developments in the EU around a stronger ETS—not agreed yet, so we will have to see what happens there. If other countries, the EU and the US, start to put in place those sorts of trading schemes then we would be at a real disadvantage if we did not raise carbon prices here.

I think they also help you in driving some consumer changes we talked about earlier. One of the risks I see with this transition is if you do not give people the right incentives, then behaviour simply is not going to change. To take an example of that, we will see more and more people switch over from driving petrol and diesel vehicles to driving electric vehicles. At the moment the Government does not seem to start to want to talk about road pricing. You saw that in the transport strategy and also in the Treasury's evidence to the Public Accounts Committee. They said this is a long time away and we are not really talking about it yet.

If you do not have something that will replace that then you are encouraging people to drive more and more, even if that is low emission vehicles. I think we need to see a combination of the two but certainly there is scope to be much more ambitious on carbon pricing.

Q18 **Jerome Mayhew:** Chris, if I could move that question on to you, it is fair to say the Government is much keener on carrots than sticks when it comes to changing behaviour. When it comes to the carbon price, what is your view? Do you think we should focus more on carbon pricing and letting the free market find out the best way to solve these problems?

**Chris Stark:** As Tom says, there are many ways to skin this particular cat. In all worlds, regardless of your outlook on this, you need that strong carbon price. It is important to say that carbon pricing is absolutely essential as one of the primary components of the transition but it is a blunt tool and tends to have aggressive impacts that can make them politically unattractive. You need to not just consider the carbon price but also what compensating actions you put in place alongside it.

It is important that it is not the only tool, so I can make that point again. Everyone says it is easy to do so but alongside the strong signal that comes from the carbon price, it is more effective and cheaper if you accompany that with a suite of other measures. That has been the experience the UK has had. It is important to think alongside the carbon



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price of what standards need to be set, what regulations need to be put in place, what incentives need to be offered in the appropriate places.

There are a couple of examples to bring that alive. You mentioned the phase-out to electric vehicles. That policy is based on a standard or a regulation and it is the right policy. We now know that will be accompanied by a mandate from manufacturers, another regulatory policy. We could try to achieve the same outcome with a fuel duty escalator. I suggest that will not be a very popular thing to do for the Chancellor, nor would it stick.

Setting a standard, and backing that up with a mandate from manufacturers, is a much better thing all round because it gives a clear signal that something has to be done by a certain date with sufficient time to plan for that, especially to industry and also to the consumer. That creates the space for market forces to come in and bring the cost down of those cars.

The other example that often comes out of the literature is energy efficiency. It is a good approach to set tougher standards to improve energy efficiency for products that are sold, the televisions we use, the light bulbs, fridges. They are all much more energy efficient than they used to be. Consumers have not had to incur higher carbon pricing to achieve that outcome. It was done with stronger standards. I think we need a bit of clarity about this. You need the sectoral plans to be in place, partly because industry and consumers need to know what is coming and that frees up the space for more traditional market forces to come into play.

Carbon pricing is such an important background piece of information for the consumer. It is a combination of those things that have led to the success we have seen in the power sector, for example. I think we can replicate that in other sectors.

**Q19 Jerome Mayhew:** We are not an economy in isolation; we are part of a global economy and different countries are approaching decarbonisation at different rates. Given this, how important do you think a carbon border adjustment mechanism could be for the UK's transition to net zero by 2050?

**Chris Stark:** It is potentially very important but there is a set of things we need to decide before that. An interesting document was published today by the Board of Trade on green trade and an interesting section on carbon border adjustments. I definitely recommend a read of it. They are very much in vogue at the moment thanks to the EU's new package of climate reforms.

In our work in the Climate Change Committee, we have floated carbon border adjustments and they are certainly promising as a tool to drive global emissions down. That said, I worry that they introduce the risk of protectionism, even if that is green. We will need strong, healthy trade



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for many of the global transitions to be successful. Think of the electric vehicle transition, for example, or all the energy infrastructure we will need to move around the world.

The general view you will find in that published today is one I agree with, that we first need to look at the multilateral solutions to this to address the ongoing risk of carbon leakage. That is one of the big issues that faces the UN process in COP26. We are in the presidency of that, so a collective agreement to adopt more ambitious standards across the globe would be a much better outcome all round.

I also like the way the Board of Trade has looked at carbon border adjustments as something that needs to come later, after you have initiated that global dialogue. Starting that first, building a better understanding of whether carbon leakage is as big a problem as some say it is—we do not know very much about that—and then focusing efforts in the early years especially on finding common international product standards for carbon-intensive products that would apply at home and to things we import. The idea is you have that strong carbon price and potentially a carbon border adjustment as a backstop, a complement to those efforts. That is quite appealing overall.

The last thing I want to say on that is the existence of something like a carbon border adjustment does not guarantee we will decarbonise British industry. We still need to focus on things that will be needed to decarbonise those industrial processes. That is about investment here in the UK. The sooner we make that investment the sooner we have cheap, zero carbon energy in the UK, the sooner we can start reshoring industry, reshoring zero carbon industries that will employ people in green jobs.

That will require taxpayer funding because we know industry will have to be shielded from some of those costs at least over that transition. Our advice is to get that done quickly and then you have a zero-carbon sector you can start to grow.

**Q20 Jerome Mayhew:** The argument for an earlier adoption of the CBAM than the 2030s and 2040s, which the Government appears to be hinting at now, is that it is not until you have that not protection at the border but level playing field at the border that you can raise the price of energy in your domestic market and allow your domestic manufacturing to be reshored because you will be unfairly competed with on the price of carbon. If we have to wait until the 2030s and 2040s before we can start revolutionising the production processes in the UK economy, that feels like a missed opportunity to me.

If I can move on, I was with the Australian High Commissioner last night celebrating the free trade agreement we have just made with Australia. Do you have concerns about trade deals and they could lead to carbon leakage in areas that are energy-intensive such as farming and heavy intensive manufacturing?



**Chris Stark:** I do not think I can answer that question straightforwardly, partly because it is unclear the degree to which carbon leakage is an issue. I mentioned that earlier. It is not clear the degree to which we have outsourced industry. It does not look like it is happening if you look at the recent manufacturing data, for example. It is also unclear the degree to which liberalised trade after Brexit would create the conditions you talk about. But there is certainly a risk. The best example is definitely agriculture. The risk we will buy cheap meat from far-flung places and exporting those methane emissions that are presently here in the UK is definitely something I am sure farmers are concerned about. I suspect those risks are overstated. Our primary trading links are still with the EU, especially for food.

The most interesting thing I can say about it is this is an opportunity—that in these new trading arrangements, we can enshrine the climate objectives more clearly than they are enshrined at present, and I would extend that to the broader question of the environment.

It might be too much of a stretch but I would love to see new trade deals that covered the need for stronger environmental protection as a core and I hope that is something Liz Truss is thinking about. I can see then there is the potential for these not to be a risk but a support for the general strategy of decarbonising because we can decarbonise here in the UK but we are responsible for a bigger carbon footprint than the emissions we are measuring directly.

**Jerome Mayhew:** I will cut you short there because we can talk for hours on this subject alone and I have trespassed enough on the Chair's goodwill.

**Chair:** Thank you, Jerome. The last set of questions to these witnesses is from Duncan Baker and we have four minutes, please.

Q21 **Duncan Baker:** I will be very quick. I want to talk about questions on governance and co-ordination. We know the Climate Change Committee has said that good governance will be crucial to deliver net zero because it transcends virtually all departments. But in December 2020 the National Audit Office reported that BEIS, along with the other key Departments for net zero, had not yet even put in arrangements for effective cross-government working. Tom, how effective do you think the governance structures currently in place are to deliver net zero?

**Tom Sasse:** I do not think they are nearly effective enough. You need a much stronger co-ordination mechanism, as I was outlining in my answers to the Chair earlier. One way of doing that is to co-ordinate it from the centre. Another way is to give the Department responsible much more power to bring together other Departments and more clout.

This is the real test of the net-zero strategy that Chris mentioned—a lot of the eggs are in that particular basket—because whoever is drafting that has been left with a difficult job of pulling together a wide range of different sectoral strategies, departmental strategies, some of which are





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not yet complete, and trying to make them add up to a clear picture and vision of this going forward.

If I could mention one thing I did not earlier: in the Prime Minister's 10-point plan we heard a reference to a net-zero task force that seems to have gone by the wayside, but that was floated as something at the centre to strengthen this. There is a real need to look at that.

The other point I would quickly raise in the short time we have, on governance, is that we have seen in the last week or so some encouraging signs from BEIS on looking at a future system operator in the power system that is pointing towards some of the institutional changes we need to see there. I think we need to see that sort of institutional mindset in other areas. The one on the top of my mind is heat, where we need a decarbonisation body that can drive that.

**Q22** **Duncan Baker:** Turning to Chris, before I became an MP I was involved in local government as a councillor and I can't emphasise enough that in my view there was a total lack of sharing of best practice between local government bodies. Councils would be nobly declaring climate change emergencies, but individually how much were they doing? If they all worked together, the prize could be so much greater. How do you feel about Government co-ordinating with local government and devolved Administrations on net zero? Is it effective?

**Chris Stark:** No, it is really not.

**Duncan Baker:** You have answered my question. That will do then.

**Chris Stark:** It could be so much better. I had a similar experience from working in the Scottish Government, the devolved Government. Some of the tools and levers that are at the disposal of local authorities, local government, devolved government, are some of the most important tools. Standing back from it, it is often the tools that can impact on demand the most.

Going back to my earlier comments about the importance of demand, it is a great shame that we are not thinking more actively about having a kind of unified strategy across each layer of government. We absolutely need that because each bit of local government we are seeing is waking up to this climate challenge. We have had hundreds of declarations on climate emergencies across the country but almost none of the plans that have come out of that, if they have a plan, are done in a consistent rulebook or are integrated. We must have that. I think this is a really important test of the Government's national strategy.

In general, there are lots of challenges like the heat one that Tom described. I think it would be better if we had a nationally-mandated requirement to do something but a local plan that is governed and shaped by people living in those areas. The idea of place-based plans is particularly important when it comes to things like heat because it is tied ultimately to housing provision. Housing stock across the country varies



hugely. I would love to see more on this. I think potentially this is an exciting area of progress if we can get it right.

**Chair:** Duncan, I am afraid we are going to have to finish that session there. I know we have not got through all of your questions, but I think we have a very clear steer from Chris about his views. I am going to wind that panel up; we have two Ministers waiting and they have a very tight timeframe.

I thank our witnesses, Chris Stark from the Climate Change Committee and Tom Sasse from the Institute for Government, for your very insightful contribution to us today. Thank you very much. You are very welcome to stay for the next session.

## Examination of witnesses

Witnesses: Rachel Maclean MP; Dr Bob Moran; Eddie Hughes MP and Charlotte Baker.

Q23 **Chair:** Now I want to move on to the second panel. We have two Ministers gracing us from two different Departments today. I welcome Eddie Hughes, who is the Parliamentary Under-Secretary of State in the Ministry of Housing, Communities and Local Government, with responsibilities that include housing—and we are going to get into exactly what is and is not within your remit shortly, Eddie. You have brought with you Charlotte Baker, who is the Director of Net Zero and Greener Buildings at the Ministry. Welcome, Eddie and Charlotte. If you could just say hello so that we can match—

**Eddie Hughes:** Good afternoon.

**Charlotte Baker:** Good afternoon.

**Chair:** Good afternoon. Thank you. You are joined by Rachel Maclean, one of my parliamentary neighbours, who is Parliamentary Under-Secretary of State at the Department for Transport. Welcome, Rachel.

**Rachel Maclean:** Hello, Chair. We are trying to turn our video on, but I think you have turned it off.

**Chair:** There we go, very good. We can see you and you are joined by Dr Bob Moran who is the Deputy Director, Environment Strategy, at the Department. Is that right?

**Rachel Maclean:** There he is, yes.

**Dr Moran:** Good afternoon, everyone.

Q24 **Chair:** Good afternoon, Bob. Thank you all for joining us. I am very aware that both Ministers have a hard stop at 4.30, so we will encourage all colleagues to ask quick questions and I am happy for fairly concise answers.

I am not sure whether you were listening to the previous discussion, but



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considerable concern has been expressed by our previous panellists about the extent to which Government is joined up across the different Government Departments in delivering the net-zero ambition.

We, as a Committee, have been taking particular interest in energy efficiency in buildings and I want to start with that with Minister Hughes. We know that your Department has responsibility, for example, for overseeing the energy performance certificate regime, which is an important element of determining what properties do and do not meet the Government's ambition. Could you explain for us, for the benefit of the Committee, what role your Department is playing in developing the Heat and Buildings Strategy, which has been much delayed?

**Eddie Hughes:** Indeed. Thank you, Chair. As the Department for housing policy, we have a lead in the role of delivering homes that the country needs in quality and supply. We want to see high quality, energy efficient homes, but BEIS has the lead on the Heat and Buildings Strategy. We have regular meetings at an official level and ministerial level in discussing that project. I don't think it would be inappropriate for me to say I have seen a draft of the Heat and Buildings Strategy and I think it is an impressive document. Obviously a considerable amount of work is ongoing with it, but at political and official level we have had the opportunity to discuss and input to it.

Q25 **Chair:** Can you give us any insight into when it is likely to be published?

**Eddie Hughes:** I am afraid I can't. It is a very substantial and ambitious piece of work with a lot of cross-cutting. I did listen in on the session earlier and one of the questions was about BEIS taking the lead and does it have enough clout. It certainly feels to me that it does but there clearly is a lot of interoperability, a lot of cross-cutting across other Departments, and so everybody needs to sign up to the plan and commit to their constituent element of it. There has been a lot of work going into it, a lot of discussion, and it feels to me that hopefully publication should be in the not-too-distant future now.

Q26 **Chair:** We had one of your colleagues, Minister Pincher, before our Committee when we were doing our inquiry into energy efficiency. He laid claim, I think rightly so, to responsibility for new buildings but claimed that responsibility for retrofitting lay with BEIS. Yet as I understand it, your Department has responsibility for energy performance certification schemes and reviewing the assessment of those schemes periodically. Are you able to set out, perhaps with the assistance of your colleague, the precise split of responsibilities between the two Departments?

**Eddie Hughes:** With regard to energy performance certificates—

Q27 **Chair:** With regard to energy in buildings. Domestic buildings account for 20% of greenhouse gas emissions and we have to get that down if we are going to achieve net zero. The problem that we see as a Committee is that responsibility for this is split across two Departments with nobody really taking full responsibility for it.



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**Eddie Hughes:** I think that is right, Chair, in that one Department does not take full responsibility. Responsibility is split across the two Departments that I feel generally co-ordinate well. We hold the EPC register and responsibility for that and we hold the responsibility for the standards of new homes, but BEIS holds the responsibility for existing properties. Charlotte, do you have something to add to help with the clarification?

**Charlotte Baker:** Yes, that is correct, Minister. We own the operation of the energy performance certificate register. We work very closely with BEIS to support its outcomes. We also have a role to a degree in the standards that are set in the social housing sector. We are responsible for the Decent Homes Standard, which is much broader than energy efficiency. It looks at a range of standards relating to social housing, but clearly energy efficiency is an important element of that. But the vast majority of policy leads and financial levers sits with Department for BEIS for retrofit of existing homes.

Q28 **Chair:** Do you have responsibility at all for the Green Homes Grant?

**Eddie Hughes:** No. That is a BEIS programme.

Q29 **Chair:** Okay. I am going to move on to the challenge that each Department has in trying to adapt its policies to cope with the Government putting into statute a net-zero Britain. There is very little mention in your single departmental plan about net zero and adapting to climate change. Are you or Charlotte familiar with what the Department is doing to try to address that?

**Eddie Hughes:** Chair, I am cautious to disagree with you but I disagree, only inasmuch as my understanding is—and Charlotte will be able to clarify this—I think we might have changed the name of that document. Rather than being called the single departmental plan, I think it might now be called the outcome departmental plan. But more importantly, if I am right, it was published a week ago, so in the new plan reducing UK greenhouse gas emissions to net zero by 2050 is listed in that document as our third priority.

Our stated departmental objectives are for more better quality, safer and, more importantly, greener and more affordable homes. That new document was out on 15 July and I think will satisfy your Committee's expectations for that being listed clearly there as a priority.

Q30 **Chair:** I am very pleased to hear it. Our brief was sent to us on 15 July, so I am absolutely convinced that the coincidence of your appearance before our Committee will have had nothing whatsoever to do with the publication of that document. I am pleased that it is your priority.

I am going to ask the same question to Rachel Maclean. Minister, there is very little mention in your single departmental plan of the Department's emissions strategy. Have you just published a new one too?



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**Rachel Maclean:** Chair, you will forgive me if I don't have that particular document at my fingertips, but what I can tell you is that one of the Department for Transport's overriding key objectives is to reach net zero. That is one of our strategic priorities. It appears in absolutely every document and mission statement that the Department produces.

But also you will be aware that just last week we published our Transport Decarbonisation Plan, which is the biggest single document and set of actions that any country in the world sets out for how we are going to remove emissions from land, seas and skies. You can see the Department's commitment to the net-zero agenda from that document alone.

**Chair:** We are going to come on to that plan, and indeed it was very welcome and again very timely for this hearing. I am going to move on Claudia Webbe who will ask the first set of questions from members of the Committee.

Q31 **Claudia Webbe:** I will start with Rachel. I want to check: your Secretary of State, as I understand it, has a seat on the Cabinet Committee on Climate Implementation. Are you able to tell us how often the Cabinet Committee on Climate Implementation has met since it was established?

**Rachel Maclean:** I don't have that information to hand. It is possible that Dr Moran from my team is able to obtain that information and he has certainly attended it on a number of occasions, as have I. We often both attend it but I don't want to just give you a figure off the top of my head because I will have to go back to my diary and it depends on which period you are talking about.

**Claudia Webbe:** Well, just since it has been established really.

**Rachel Maclean:** We will try to get those figures for you, unless Dr Moran has them. I think he has.

**Dr Moran:** We were just checking our records ahead of this. We think the CAI has met between six and eight times since its inception and the CAS met on three occasions, the Climate Action Strategy Committee that sits above that.

Q32 **Claudia Webbe:** Remind us who sits on the strategic committee, which Secretary of State sits on that?

**Rachel Maclean:** On the Climate Action Strategy Committee? That is the Transport Secretary and a number of other Cabinet Ministers. Again, I don't have a full list of that. That is not a meeting that I would ever attend.

Q33 **Claudia Webbe:** Dr Moran, do you concur on who sits on those respective committees?

**Dr Moran:** Yes. The Climate Action Strategy Committee is the top-level Cabinet committee and is chaired by the PM. The Secretaries of State for



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each of the sectors that will be contributing to the sector-wide plan that the previous session has talked about sit there. Underneath that there are a few additional representations from other ministries with key enablers or key influence on the outcomes that sit on the Climate Action Implementation Committee. Minister Maclean has attended that, as the Secretary of State for Transport.

**Q34** **Claudia Webbe:** To be clear, the Secretaries of State for Transport, BEIS and the MHCLG all sit on the strategic committee with the Prime Minister?

**Rachel Maclean:** Yes, I think that is correct. I don't sit on that committee. I sit on the implementation committee along with Minister Hughes and a number of other Ministers from different Departments where we work out the respective policies to drive the net-zero agenda.

I think it is important to say here, which I am sure your question is alluding to—I did hear the previous session and there was some commentary about Government not working together. It is precisely these structures that have been set up where we have discussions with different Departments and we get into some of the very knotty issues and challenges about how each particular sector is going to decarbonise its own emissions that it is responsible for and how we co-operate across Government.

**Q35** **Claudia Webbe:** Eddie Hughes, do you want to come in?

**Eddie Hughes:** Thanks very much, Claudia. The Secretary of State at MHCLG is a standing member of the CAS but that is because he would only attend if there is something particularly relevant to his Department. My recollection is that he attended the last meeting of that committee. As Rachel pointed out, she and I have both attended meetings of the implementation committee.

**Q36** **Claudia Webbe:** To be clear, the Climate Implementation Committee is the one that the Rt Hon Alok Sharma chairs?

**Rachel Maclean:** That is correct, yes.

**Q37** **Claudia Webbe:** Thanks for that clarity, Eddie, that your Secretary of State is not a standing member of the Climate Action Strategy Committee that the Prime Minister chairs but attends when needed and attended the last meeting, I think you said. Do you know if that is the same for the Secretary of State for Transport and the Secretary of State for BEIS?

**Rachel Maclean:** I will have to ask Dr Moran because the Climate Action Strategy Committee is not a committee that I sit on, so I can't answer questions about it. I will have to ask Dr Moran about what the Secretary of State does.

**Dr Moran:** Yes, I can confirm. Looking at the formal list of members of that committee, the Secretary of BEIS is on there, the Secretary of State for Transport is not on there as a formal attendee but he does attend as needed when transport issues are discussed.





Q38 **Claudia Webbe:** Do you concur with Eddie Hughes that his Secretary of State is also not a standing member of the committee that the Prime Minister chairs?

**Dr Moran:** Yes, on the basis of the last published list of formal members of that committee.

Q39 **Claudia Webbe:** You can see where I am going: how we ensure a joined-up, co-ordinated approach across Government on this very serious issue of tackling and addressing climate and climate implementation. It is important that we have the realities clear.

I would be grateful to take up the offer on behalf of this Committee for us to receive the detailed breakdown of that information for the representation on the two committees and how often each of them has met and who has attended. Would that be possible?

**Rachel Maclean:** Yes, we can certainly do that.<sup>1</sup>

Q40 **Claudia Webbe:** If we can have that information, that will be good. Eddie Hughes, local authorities and elected Mayors will have a key role to play, as you know, in delivering net zero at a very local level. What are the Government doing to ensure that locally-elected leaders are empowered to play their active part in the transition to net zero?

**Eddie Hughes:** It is a good point and they do have a significant role. We are working with local authorities to better understand what they need so that we can take it forward in a way that optimises local opportunity and combines that with national goals.

We are convening permanent secretaries from across Whitehall and climate change champions from the local government sector to discuss how we can approach engagement and policy design in a way that optimises those outcomes. We are working very collaboratively with them and I believe that the Secretary of State is currently actively considering hosting an event with council leaders and Ministers from across Government later this year to bring leaders together on local climate action. There is some good work done and the prospect of more in the pipeline.

**Chair:** I am afraid we are going to have to move on because we are very tight on time. On the questions that Claudia was asking, I think it would be most helpful if you are providing some further information on the Cabinet committees if you also were able to provide copies of any minutes that have been made public. Thank you.

We now have some questions for Minister Hughes on planning and buildings and then we will have a set of questions for Minister Maclean. We know that Minister Hughes might have to leave so I will indicate when

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<sup>1</sup> The information subsequently provided by the Minister has been reported to the House and published at <https://committees.parliament.uk/work/1346/mapping-the-path-to-net-zero/publications/3/correspondence/>



those questions have come to an end.

- Q41 **Ian Levy:** Thank you to the panel for joining the Committee today. It is a lovely sunny day here in Blyth Valley and I am sure it is in London and we are all enjoying the heat.

Minister Hughes, why are you still building homes that are not really equipped to deal with the hot summers that we have now and in future will have to be retrofitted? Is this due to a lack of skilled personnel to build these houses at the time? Could you shed a bit of light on that, please?

**Eddie Hughes:** Thank you very much, Ian, for your question. What an unfortunate day to be answering it as I am sweltering in my office. Although we are all experiencing incredible hot weather at the moment, until relatively recently I don't think there was a standard method available to model new homes to assess the overheating risk. We can take a generic view but too frequently it is the case that not every property and not all areas of the country are going to be experiencing it in the same way. It varies with geographical location. But as I say, it has not been an easy thing to model although I think there has been some recent developments and I am hoping we will be looking closely at those.

We are reviewing our consultation responses on proposals to reduce the risk of overheating in new residential buildings. We will be responding to that later this year. But I come back to the point that currently we don't have strong evidence on the severity or prevalence of overheating risk to buildings in existing residential stock or on other non-domestic buildings. I appreciate that that sounds a bit odd on a day like today but the Government are undertaking research to understand how overheating is affecting the existing residential building stock.

We are now in a place where we have a tool that we can use for modelling how the risk of overheating might impact new housing stock and we will be working to develop that further while simultaneously doing research to have a better understanding of how it affects existing residential buildings as well.

- Q42 **Ian Levy:** Thank you. I was going to lead on to ask how MHCLG is working with BEIS to retrofit existing buildings with overheating risk. Is there anything you want to expand on that or do you feel you have covered it in your first answer?

**Eddie Hughes:** We are taking on board that CCRA recommendation through the consultation on the methods of reducing overheating risk in new residential buildings. We are currently considering that evidence and we are going to publish the Government response in the autumn, so not too long to wait now.

As I say, we don't have strong evidence of the severity or prevalence of overheating with our existing stock at the moment. We don't have that



evidence; we are doing our best to get it and then we will publish our response.

Q43 **Ian Levy:** Thank you. I will move on to look at carbon zero. Given that the homes that we are building now will be with us for many decades to come—our children or grandchildren will be living in them—why does the Future Homes Standard not specify that all new buildings should be zero carbon?

**Eddie Hughes:** When the Future Homes Standard is implemented we will be building properties that are able to achieve net zero as the energy supply decarbonises. They are going to be built to very high standards. They will not require retrofit to achieve net zero because once we have generated more wind turbine energy, green renewable energies, those new properties will be net zero, but it will just be a matter of the energy supply decarbonising.

Q44 **Ian Levy:** Will that encase the embodied carbon that is in the homes as well? I am thinking of not just operational emissions that come off the houses.

**Eddie Hughes:** The honest answer is no. With embodied carbon we need to make sure that we have a good understanding nationally and internationally about those standards and the calculation of the amount of embodied carbon so that we have a clear benchmark for all people to work from. I don't think we are in a position yet to have that standard.

Q45 **Ian Levy:** Thank you. We have been talking about it being a red-hot day today, but we are looking towards the winter and the colder days that we have when we have to put on gas fires and central heating systems. How is MHCLG using all the levers at its disposal to look at things that we can bring in like air source heat pumps or ground source pumps?

**Eddie Hughes:** This is a good question and relates to some of the comments that I heard in the earlier session. Of course MHCLG has a responsibility in this and I can talk about that in a minute, but on nudging people in the right direction, one of the things that is going to be the biggest game changer is finding a way to engage the public in this project in a way that they embrace and feel warm about rather than us having to force anything upon them. It is going to be a collective responsibility for somebody to come up with a great advertising slogan that manages to do that.

Our levers are primarily around new homes, so homes built under the 2021 standard will be zero-carbon ready. We believe that that standard is one that many developers will start to build homes to, using low carbon heating and heat pumps. We are seeing the number of heat pumps being used in new build properties increasing all the time. Homes built to 2013 and 2021 standards will not need extensive retrofitting and then the Heat and Buildings Strategy that I mentioned previously will set out the immediate actions that we will take for reducing emissions from buildings. This will include the deployment of those energy efficient



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measures, low carbon heating and I think that programme is going to be pretty ambitious.

**Ian Levy:** Thank you, Minister.

Q46 **Chair:** Minister, on the energy performance certificate for which you do have responsibility, we had a lot of evidence in our previous inquiry that this is not sufficiently adaptable to be able to cope with innovations in technology and building materials. How often is the EPC regime reviewed? Do you know whether there is a current revision underway at the moment?

**Eddie Hughes:** My understanding is that there is a review under way at the moment but I would have to phone a friend and ask Charlotte if she has anything that she can help with.

**Charlotte Baker:** Yes, let me try to help. We carried out a consultation last year and, as a result of that, we developed something called the EPC Action Plan. If I am interpreting your question correctly, you might be talking about the balance between the metrics that result in affordability in terms of energy efficiency and the metrics that relate to carbon emissions.

One of the actions in our EPC Action Plan specifically looks at the balance of recommendations that appear in the EPC certificate and whether there is something we need to do about the ordering of those to make sure it incentivises people to take up the opportunity of, for example, heat pumps. Obviously, as we would expect the cost of heat pumps to go down, the value of those recommendations will be more important. That is something that we are looking at as part of the EPC Action Plan.

**Chair:** I am pleased to hear it because of the examples that I have, representing a rural area where off-gas grid properties that seek to decarbonise their heating source have no incentive under the EPC to do so. They do not get adequate recognition for installing a heat pump. It has virtually no impact on their EPC rating if it is a more expensive source of heating than what they currently have. That is therefore not driving a change in behaviour, so I am pleased to hear you are looking at that.

Q47 **Cherilyn Mackrory:** It is nice to see you both this afternoon. Mr Hughes, if I could talk to you about planning reforms, the planning White Paper was published some time ago now and has caused quite a stir in various areas. There was no mention though of climate change and the existing requirements for local plans to pursue carbon emission reductions. Could you talk about that?

**Eddie Hughes:** Our Planning for the Future White Paper sets out that we will maximise the effectiveness of the planning system in contributing to climate change, mitigation and adaptation. But the planning system is only one of the tools that we need to use to mitigate and adapt to climate change and support the natural environment to flourish.



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Our national planning policy framework already makes clear that the Government expect local planning authorities to adopt proactive strategies to reduce carbon emissions in line with the objectives and provisions of the Climate Change Act. I do not think it is the only tool. There are many parts to this in terms of influencing the planning system.

**Cherilyn Mackrory:** When the Planning Bill comes forward—later this year, I assume, or early next year—are there going to be more specific references to that?

**Eddie Hughes:** I believe there will be but, Charlotte, could you just support?

**Charlotte Baker:** I would not want to pre-empt the response to the consultation, and I know that we have received consultation responses on this point specially. We have also committed to have a look at the national planning policy framework and do a fuller review of whether there is more that we need to do to reflect the role of the planning system. I cannot commit at this stage to what that means in terms of Bill measures but it is something that we have committed to look at.

Q48 **Cherilyn Mackrory:** Turning to permitted development rights, there is some concern, if buildings go ahead with permitted development rights, about how we can ensure that the properties will be properly adapted for climate change?

**Eddie Hughes:** This is a common confusion—the difference between getting planning permission and getting building regs on a property. Planning permission determines part of it as to what you can do and where, and then the building regs are responsible for making sure that what you have built is in line with the specifications that the Government set.

I would say that all developments, whether they are delivered through permitted development right or through a standard planning application, are required to meet parts of the building regs. The proposals in the future building standards consultation on things like overheating, I appreciate they will only apply to new residential buildings, whereas we will carefully consider the responses we are receiving and keep the scope of the regulations under review.

The differentiation between planning permission and building regs means—I would like to think—that you could be confident that even if a property is developed through permitted development rights it will still be meeting the building regs, and that is where we will be tackling the climate change element of it.

Q49 **Cherilyn Mackrory:** Just to clarify: that would include existing buildings where extensions are made?

**Eddie Hughes:** The building regs apply in those cases, to the new build part of it.



**Q50** **Cherilyn Mackrory:** Finally, how will the overall carbon budget targets affect your policy towards local authority planning decisions, particularly with airport growth? The Committee would like to know if MHCLG or the inspectorate would turn down any applications for regional airport expansion if that was to breach carbon budgets.

**Eddie Hughes:** Cherilyn, I feel you are tempting me into breaking the law. Given the responsibility the Department would have for significant infrastructure like that, I do not think it would be appropriate for me to comment, probably risky for me to comment, other than to say clearly the elements that are considered with regard to granting a planning application are many and varied. Whoever is making that consideration will be taking many things into account before they come to a decision. I certainly would not want to make any pre-emptive comments about planning applications with regard to airports.

**Chair:** Thank you, Cherilyn, and you get top marks for concise questions, and I am sure you will be swiftly followed by John McNally if we move on to Minister Maclean. Eddie, if you have to go to the Chamber, we are quite happy for you to drop off at your convenience from now on.

**Eddie Hughes:** That would be fantastic. Thank you very much for your help.

**Chair:** Thank you for joining us today. It would be helpful if Charlotte could stay with us just in case anything comes back. Enjoy your appearance in the Chamber. Now over to John McNally who has some questions on the transport side.

**Q51** **John McNally:** Just before I ask my questions on the Transport Decarbonisation Plan, I want to very quickly mention the Youth Action against Climate Change APPG yesterday, when MPs heard from three climate action groups across the UK: Mikaela Loach, 22, from Paid to Pollute in Edinburgh; Poppy, 16, from the Wales Youth Climate Ambassadors; and Nyeleti, 15, from Choked Up in London on air pollution.

All three delivered professional presentations to the APPG, very timely for today's EAC meeting. Choked Up brought to our attention the public health emergency that exists in their area of south London. I would ask the Minister if she could consider coming along to one of our APPGs in the near future. Thank you, Chair, for that small indulgence.

Minister Maclean, as everyone knows, transport is the UK's largest source of carbon emissions. Surface transport is responsible for around 25% of the UK's territorial emissions. Since 2015 it has become the highest emitting sector in the UK and it is not on track. Indeed, emissions have flatlined over the last 10 years, falling only by a pitiful 1% between 2009 and 2019. Minister, can you tell the Committee why has there only been a 1% reduction in surface transport emissions between 2009 and 2019?

**Rachel Maclean:** Thank you for your question. Your question is focused on why there has not been a reduction in the past and that was not the





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period that I was a Minister for, but I want to look forward and I want to set out the actions for tackling it.

Some of the reasons were addressed in your previous session by Chris Stark. He talked about the fact that even though vehicles have become more efficient—people are driving more, and so on—we have more journeys, we have more freight movements and so on. Unfortunately we have seen a rise in surface transport and that is absolutely why the Department has now published, following the manifesto commitments that we were elected on in 2019 as a Government, our Transport Decarbonisation Plan and we have set out in clear terms, for the first time, how we are going to tackle those emissions that you have rightly referred to.

**Q52 John McNally:** You obviously have to look into the past to plan for the future now. I fully understand that. The second question I am coming on to, Minister, is a subject of great interest to me, which you will be well aware of, that is moving on to the public transport side of things. I have Alexander Dennis Ltd in my own constituency of Falkirk. They are world-leading bus builders and they provide the fleets of vehicles to encourage use of public transport to all our communities. The decarbonisation plan acknowledges that the cost balance between motoring and the low carbon bus and rail has been ongoing and it has been going in the wrong direction. I feel like—it has been said earlier as well—that the nudge has been sending things in the wrong direction.

Minister, the pandemic itself has people moving towards their own personal transport usage, for understandable health reasons. If the Minister is serious about reducing emissions, she will know that delivering confidence back into the public mindset will be absolutely key to achieving zero carbon emissions by using public transport again. What is the Government going to do to rebuild trust in public transport, to avoid a car-led recovery adding to congestion, and simultaneously the extra emissions that this will bring?

**Rachel Maclean:** It is a very fair point. Obviously, what happens in Scotland is for the Scottish Government to determine in terms of their agenda, but what we have set out for England and for the United Kingdom is that we have been very clear in the Transport Decarbonisation Plan that we do want to avoid a car-led recovery and we do want to tackle congestion.

That means, as you rightly say, making public transport services cheaper, more convenient, more flexible. We have announced in a number of measures in recent weeks, not only in the Transport Decarbonisation Plan, which talks a lot about active travellers, switching people to those more active modes, and setting out clear plans to have the majority of journeys cycled or walked in towns and cities and also to invest in our public transport networks.



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You will have seen, I am sure, the publication of the Bus Back Better strategy that we published, which is delivering new zero emission buses to all parts of the country. We have also set out a plan to make the railways fit for the future in the Williams-Shapps plan, which sets out how we will enable passengers and the travelling public to access cheap and flexible fares wherever they are going throughout the country.

If I can give you an update on the progress on zero emission buses because that was one of the pledges that we had in our election manifesto—

**Q53 John McNally:** I did have some correspondence with you on that, as you know, trying to put the pedal to the floor as the Prime Minister gratefully replied to me at PMQs last December. I do think they need to be even more active in delivering these buses and the whole transport network back into the public domain.

**Rachel Maclean:** Just to update you from whenever the correspondence was, we have made funding available, even just since February of last year, for 900 zero-emission buses; 50 of them are already on the roads. We will provide £120 million to support 500 zero-emission buses between now and March 2022.

**John McNally:** The pledge was for 4,000.

**Rachel Maclean:** We have already committed £50 million for the first all-electric bus town in the West Midlands Combined Authority for up to 300 zero-emission buses and over 100 zero-emission buses supported by the ultra-low-emission bus scheme. There is a lot of progress and bear in mind that we have been battling a pandemic during this period.

**Q54 John McNally:** What assessment has the Transport Decarbonisation Plan made of the compatibility of the Government's road-building programme with net zero?

**Rachel Maclean:** We have committed in the Transport Decarbonisation Plan that we will look at the overall framework for the national policy statement, which sets out in broad terms the need for major road investment such as roads.

I want to be clear that we absolutely do need roads because the vast majority of journeys are going to be made on roads, but we have been very clear that we will be seeing zero-emission vehicles travelling on those roads. We need roads for bikes and buses and freight. We do need roads but they need to be zero carbon roads with zero carbon vehicles travelling on them. There is a lot of detail in the plan on that.

**Chair:** Now we have questions on road pricing fuel duty from Robert Goodwill.

**Q55 Mr Robert Goodwill:** Good afternoon, Minister, in what looks suspiciously like my old office in Great Minster House. I would like to ask you about the relative cost of rail travel and car journeys because we



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have seen, year on year, the fuel duty being frozen but rail fares going up year on year.

Given that the electrification of the rail network is a much lower-hanging fruit than certainly heavy vehicles, how do you see that policy developing and should we maybe do the opposite—reduce the price of rail tickets and increase the price of fuel or vehicle excise duty?

**Rachel Maclean:** As you would probably expect me to say, Robert, from your old office or not, as you will know, taxes and vehicle excise are matters for the Chancellor and of course it is not for me to pre-empt his policies, even if I knew them, which I do not.

What we have been clear about, working through structures such as we were talking about earlier, the climate action committees that we are all part of, is that we have recognised that of course transport is a major cost. At the moment, it is too cheap to drive compared to taking public transport and we have been clear about that in the Transport Decarbonisation Plan. We have set out that we need to tackle this.

That is something that we are not in a position to talk about in detail at this point but it is absolutely an objective that we need to work on. We have been very clear that revenue from motoring underpins our public services. There has to be a way, as a Government, that we recover that revenue somehow to fund the public services that the public rightly expects.

Q56 **Mr Robert Goodwill:** Is it not the case that if you do start to bring in a fuel duty escalator, Robert Halfon and the rest of the Tory Back Benchers will threaten rebellion and the Chancellor will have to back down? It is all very well talking the talk but are we actually going to be able to have courage, Minister, to do this?

**Rachel Maclean:** Robert, I cannot comment on managing rebellions; that would be a matter for the Chief Whip. The point here is that we have said, and in fact every Conservative Back Bencher has signed up to a manifesto to get us to net zero. We have all been elected on that. The Prime Minister has been crystal clear about his objectives to get to a net-zero economy because of the benefits that it provides to our constituents all over the country in terms of jobs, investment and new skills.

I think that once people understand the logic and the reasoning behind that, people will support us in this agenda. Clearly, as I think I heard someone saying earlier, there has to be public consent for every measure that we bring in and that is a vitally important part of this discussion.

Q57 **Mr Robert Goodwill:** As we move to a more sustainable vehicle fleet and more electric vehicles on the road, that is going to have a tax hit on the Treasury as many of these vehicles have zero vehicle excise duty, they are not filling up and paying the fuel duty; 5% VAT on electricity is the current rate. The AA has estimated that is going to mean a loss of about £765 per year per car from that revenue. Have you looked at other



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ways of bringing in revenue such as road charging, for example, as a way of bringing in some of that lost income and bringing in money to invest in roads?

**Rachel Maclean:** We do not have any current plans to introduce road pricing but again that is a matter for the Treasury. I will just repeat what I said earlier, Robert, which is that we have been very clear as a Government that we will have to ensure that the taxation system keeps pace with the transition to electric vehicles. That is obviously a broad objective but we do need to do that.

**Q58 Mr Robert Goodwill:** Have you had a look at any of the other systems currently in place around Europe? I know when I was in the shadow transport team prior to the 2010 election, I went to Germany and saw their LKW-Maut system for charging lorries based on a satellite system, or the Czech system, based on gantries which pinged the vehicles as they went underneath.

We abandoned that because we persuaded the European Commission to let us charge foreign trucks by the day, but are you looking at some of that technology to see how it could be rolled out, first of all for trucks but maybe following on to smaller vehicles?

**Rachel Maclean:** You were very fortunate in this role that you got to go anywhere. I have not managed to go anywhere, Robert, but clearly we look at policies from around the world. You will be aware that we do have local transport charging systems to tackle issues such as air pollution in various cities such as Birmingham and Bath, and obviously London has its own scheme.

There will be a number of those coming onstream and the revenue there is retained by that local authority to reinvest back in transport in that local area. There is a huge amount of work going on, of course, in terms of what international comparators are doing, but I just want to be clear with you that there are no current plans to introduce road pricing.

**Q59 Mr Robert Goodwill:** Okay. That is what they all say, isn't it? Obviously that revenue has to come from somewhere and if we are going to try to encourage more people to go on public transport then pay-per-go might be one answer. As you say, there are no advanced plans on that but I hope that you will travel and have a look at some of these systems that work very well around Europe.

**Rachel Maclean:** I very much do want to do that.

**Chair:** Thank you, Robert—commendably concise also. Our last set of questions is from Helen Hayes.

**Q60 Helen Hayes:** Minister, you have set the target to achieve net-zero domestic flights by 2040. I do not think there is any doubt at all that that target is absolutely necessary but the technology to achieve it is not yet commercialised. How are you planning to support the aerospace industry to achieve the target?



**Rachel Maclean:** We do have a very comprehensive package of support for the aviation industry and that is delivered not only through my Department but also through BEIS, through initiatives such as the Aerospace Technology Institute and some of the FlyZero programmes. That is backed by R&D funding. We have also set up a cross-Government body called the Jet Zero Council, which is working very collaboratively with industry to start to develop those technological solutions.

It is worth saying to people that industry is absolutely on board with this agenda. I speak to the manufacturers and the airlines regularly and they are completely committed to the goals and the targets that we have set out for them to reach. Already we are seeing aviation technology coming on in great strides. We have already had a hydrogen plane that can fly, there are electric aircraft that can take off and fly. It is early days but we also do have quite a few years for this technology to advance and technology, as you know, advances very quickly.

Q61 **Helen Hayes:** Could you just be a bit more specific about the milestones along the way towards 2040 specifically for net-zero domestic flights? When will we start to see changes in the fleet of aircraft in use for domestic flights? Will there be adaptations to existing aircraft? What are the stages by which you will know that you are being successful in working towards that target?

**Rachel Maclean:** It is a fair point. For all of our plans, we have been very clear that we will review the TDP in its entirety every five years, a formal review. We have been clear about that in the plan but we will need to, of course, review everything much more regularly because none of us can know right now how things are going to change in a year, two years or even five years. Obviously things are accelerating as we come out of the pandemic and people are looking to build back better, and we are seeing that across the whole of industry.

Specifically on net-zero aviation, we have just launched a consultation that we have called Jet Zero. That sets out all the detailed policies and proposals that we have, which we believe will get us to that target, and we have asked industry for their comments on that. That is an ongoing piece of work, we will be publishing the response and there will be a lot more detail behind that.

Q62 **Helen Hayes:** Thank you. The Government's own modelling has shown that the Transport Decarbonisation Plan will not reduce overall transport emissions to zero by 2050 when international aviation and shipping is included. Where will the Government achieve the negative emissions necessary to offset the remaining emissions in aviation and shipping, if they are not prepared to reduce demand?

**Rachel Maclean:** We have set out in the plan that we will reach zero emissions in every single sector but it may be that we do see some residual emissions in aviation. The Department's own analysis has not demonstrated or shown that the way to reduce emissions from aviation is



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by reducing demand and we have been very clear that that is not our approach.

We do believe that we have set out a clear plan in terms of timelines and milestones for the industry to work with us. We are investing in that technology at a very early stage. We will need to look at the consumer side of things in terms of educating consumers and passengers and helping them, because we know that a lot of people do want to make more sustainable journeys and the industry wants that as well. There is a lot of work going on in that space but again, a lot of that is captured in our consultation and we will be able to publish the response to that, which sets out a lot more detail.

**Q63 Helen Hayes:** Specifically, taking into account what you have said about consumer demand, where do you get the additional carbon reduction from? If there will be residual emissions from aviation and from shipping and demand is not going to reduce, what other measures—perhaps not transport-related—are there in the Government’s plan to make sure that net zero is achieved by 2050?

**Rachel Maclean:** We do not know what demand will be in 30 years’ time. It may be that people decide to take different decisions about flying and so on. It may well be that we will see that. I do not think it is possible to say that with any certainty.

However, we have been clear. If you actually look at our plan, we talk about offsetting residual emissions and how that is tackled. That is addressed through some of the wider structures in Government as well, in terms of how we deal with those residual emissions and those offsets. It might be helpful if Dr Moran comes in and says a bit more about that because this is not my specialist area in this particular field.

**Dr Moran:** There are a handful of technologies that are at a very early stage for directly capturing CO<sub>2</sub> and putting it either to use, for example in synthetic fuels, or storing it long-term. Elsewhere across Government, investments are going on in that technology and we will have to see how they develop.

The Transport Decarbonisation Plan is very clear that depending on what happens—and it is very difficult to predict what will be happening, even in transport, in 29 years’ time, how fast technology will have come through, be accepted and normalised by people, and exactly what the amount of residual emissions across the economy will be. On some projections, aviation is one of those areas where there could be residual emissions, and so either technologies will need to come through or other actions would need to be taken.

**Helen Hayes:** Thank you. I will leave that there for now. Back to you, Chair.

**Q64 Chair:** Thank you very much, Helen. Minister, you will have seen that yesterday we announced an inquiry of our own as a Committee into net-





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zero aviation and maritime, to make our contribution to helping you to work through the challenges of including emissions from these two sectors in net-zero Britain, which is going to be an increasingly important focus. It is widely recognised that this is one of the most difficult areas remaining to be addressed because the technology is not yet there. We look forward to you and your colleagues appearing before the Committee in due course. This is giving you plenty of notice to get ready.

***Rachel Maclean:*** It would be a pleasure, always, Chair.

**Chair:** Thank you very much indeed to Minister Maclean, Rachel, for joining us today, together with Dr Bob Moran and Charlotte Baker from the Ministry for Housing, Communities and Local Government. Thank you to members of the Committee for staying with us this afternoon in this sweltering heat and to the staff for preparing our brief. I wish everybody a good summer recess and we will come back refreshed and hopefully a bit cooler in September.